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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2008; month=7; day=18; hr=15; min=3; sec=33; ms=27; ]

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\*\*\*\*\*

Reviewer Comments:

This is not the proper format for a sequence listing. Please follow the  
example given in the MPEP section 2431 and follow the sequence rules  
provided in sections 2420 to 2431.

\*\*\*\*\*

Application No: 10567091

Version No: 1.0

Input Set:

Output Set:

**Started:** 2008-07-01 16:09:38.170  
**Finished:** 2008-07-01 16:09:54.408  
**Elapsed:** 0 hr(s) 0 min(s) 16 sec(s) 238 ms  
**Total Warnings:** 9125  
**Total Errors:** 213  
**No. of SeqIDs Defined:** 0  
**Actual SeqID Count:** 0

Error code	Error Description
E 287	Invalid WIPO ST.2 date format; Use (YYYY-MM-DD) in <141>
E 287	Invalid WIPO ST.2 date format; Use (YYYY-MM-DD) in <151>
E 248	Order Sequence Error <151> -> <213>; Expected Mandatory Tag: <210> in Header
W 402	Undefined organism found in <213> in SEQ ID (0)
E 202	Invalid input format; Value must be an integer in <400> SEQID: (0)
E 310	Invalid sequence type in <212> in SEQID: (0)
E 248	Order Sequence Error <212> -> <211>; Expected Mandatory Tag: <213> in Header
E 202	Invalid input format; Value must be an integer in <211> in SEQ ID
E 248	Order Sequence Error <211> -> <213>; Expected Mandatory Tag: <212> in Header
W 402	Undefined organism found in <213> in SEQ ID (0)
E 202	Invalid input format; Value must be an integer in <400> SEQID: (0)
W 112	Upper case found in data; Found at position(0) SeqId(0)
W 112	Upper case found in data; Found at position(1) SeqId(0)
W 112	Upper case found in data; Found at position(2) SeqId(0)
W 112	Upper case found in data; Found at position(3) SeqId(0)
W 112	Upper case found in data; Found at position(4) SeqId(0)
W 112	Upper case found in data; Found at position(5) SeqId(0)
W 112	Upper case found in data; Found at position(6) SeqId(0)

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Error code	Error Description
W 112	Upper case found in data; Found at position(7) SeqId(0)
W 112	Upper case found in data; Found at position(8) SeqId(0)
W 112	Upper case found in data; Found at position(9) SeqId(0)
W 112	Upper case found in data; Found at position(10) SeqId(0)
W 112	Upper case found in data; Found at position(11) SeqId(0)
W 112	Upper case found in data; Found at position(12) SeqId(0)
W 112	Upper case found in data; Found at position(13) SeqId(0)
W 112	Upper case found in data; Found at position(14) SeqId(0)
W 112	Upper case found in data; Found at position(15) SeqId(0)
W 112	Upper case found in data; Found at position(16) SeqId(0)
W 112	Upper case found in data; Found at position(17) SeqId(0)
W 112	Upper case found in data; Found at position(18) SeqId(0)
W 112	Upper case found in data; Found at position(19) SeqId(0) This error has occurred more than 20 times, will not be displayed
E 310	Invalid sequence type in <212> in SEQID: (0)
E 248	Order Sequence Error <212> -> <211>; Expected Mandatory Tag: <213> in Header
E 202	Invalid input format; Value must be an integer in <211> in SEQ ID
E 248	Order Sequence Error <211> -> <213>; Expected Mandatory Tag: <212> in Header
W 402	Undefined organism found in <213> in SEQ ID (0)
E 202	Invalid input format; Value must be an integer in <400> SEQID: (0)
E 310	Invalid sequence type in <212> in SEQID: (0)
E 248	Order Sequence Error <212> -> <211>; Expected Mandatory Tag: <213>

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E 202	Invalid input format; Value must be an integer in <400> SEQID: (0)
E 310	Invalid sequence type in <212> in SEQID: (0)
E 248	Order Sequence Error <212> -> <211>; Expected Mandatory Tag: <213> in Header
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E 248	Order Sequence Error <211> -> <213>; Expected Mandatory Tag: <212> in Header

[illegible]

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E 310	Invalid sequence type in <212> in SEQID: (0) This error has occurred more than 20 times, will not be displayed

## Organization Applicant

-----

Street :  
City :  
State :  
Country :  
PostalCode :  
PhoneNumber :  
FaxNumber :  
EmailAddress :

<110> OrganizationName : Max-Planck-Gesellschaft

## Application Project

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<120> Title : Novel genetically encoded bioindicators of calcium-ions

<130> AppFileReference : G62276PC

<140> CurrentAppNumber :

<141> CurrentFilingDate : \_\_\_\_-\_\_-\_\_

## Earlier Applications

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<150> PriorAppNumber : EP 03016691.2

<151> PriorFilingDate : 2003-08-04

## Sequence

-----

<213> OrganismName : Artificial Sequence

<400> PreSequenceString :

atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac	60
ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgagggcga tgccacctac	120
ggcaagctga cctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc	180
ctcgtgacca cctgacctg gggcgtgcag tgcttcagcc gctaccccg cccatgaag	240
cagcagcact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc	300
ttcaaggacg acggcaacta caagaccgc gccgaggtga agttcgaggg cgacaccctg	360
gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac	420
aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac	480
ggcatcaagg ccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc	540
gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac	600
tacctgagca cccagtccgc cctgagcaaa gacccaacg agaagcgcg tccatggtc	660
ctgctggagt tcgtgaccgc cgcccgcatg ctcagcgagg agatgattgc tgagttcaaa	720
gctgcctttg acatgtttga tcgggacggt ggtggggaca tcagcaccaa ggagttgggc	780
acggtgatga ggatgctggg ccagaacccc accaaagagg agctggatgc catcatcgag	840
gaggtggacg aggatggcag cggcaccatc gacttcgagg agttcctggt gatgatggtg	900



cgccagatga aagaggacgc caagggcaag tctgaggagg agctggccaa ctgcttccgc	960
atcttcgaca agaacgctga tgggttcacg gacatcgagg agctgggtga gattctcagg	1020
gccactgggg agcacgtcat cgaggaggac atagaagacc tcatgaagga ttcagacaag	1080
aacaatgacg gccgcattga cttecgatgag ttcctgaaga tgatggaggg tgtgcaggag	1140
ctcatggtga gcaagggcga ggagctgttc accgggggtg tgcccatcct ggtecgagctg	1200
gacggcgacg taaacggcca caagttcagc gtgtccggcg agggcgaggg cgatgccacc	1260
tacggcaagc tgaccctgaa gttcatctgc accaccggca agctgcccggt gccctggccc	1320
accctcgtga ccaccttcgg ctacggcctg atgtgcttcg cccgctaccc cgaccacatg	1380
cgccagcacg actttcttcaa gtccgccatg cccgaaggct acgtccagga gcgcaccatc	1440
ttcttcaagg acgacggcaa ctacaagacc cgcgccgagg tgaagttcga gggcgacacc	1500
ctggtgaacc gcatcgagct gaagggcatc gacttcaagg aggacggcaa catcctgggg	1560
cacaagctgg agtacaacta caacagccac aacgtctata tcatggccga caagcagaag	1620
aacggcatca aggccaactt caagatccgc cacaacatcg aggacggcag cgtgcagctc	1680
gccgaccact accagcagaa ccccccatc ggcgacggcc ccgtgctgct gcccgacaac	1740
cactacctga gctaccagtc cgccctgagc aaagaccca acgagaagcg cgatcacatg	1800
gtcctgctgg agttcgtgac cgccgccggg atcactctcg gcatggacga gctgtacaag	1860
taa	1863

<212> Type : DNA

<211> Length : 1863

SequenceName : TN-L15

SequenceDescription :

Custom Codon

-----

Sequence Name : TN-L15

Sequence

-----

<213> OrganismName : Artificial Sequence

<400> PreSequenceString :

MVSKGEELFT GVPVILVELD GDVNGHRFSV SGEGEGDATY GKLTCLKFICT TGKLPVPWPT	60
LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL	120
VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA	180
DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHNV LLEFVTAARM LSEEMIAEFK	240
AAFDMFDADG GGDISTKELG TVMRMLGQNP TKEELDAIIE EVDEDGSGTI DFEEFLVMNV	300

RQMKEDAKGK SEEELANCFR IFDKNADGFI DIEELGEILR ATGEHVIEED IEDLMKDSKD	360
NNDGRIDFDE FLKMMEGVQE LMVSKGEELF TGVVPILVEL DGDVNGHKFS VSGEGEDAT	420
YGKLTILKFIC TTGKLPVPWP TLVTTFGYGL MCFARYPDHM RQHDFFKSAM PEGYVQERTI	480
FFKDDGNYKT RAEVKFEGDT LVNRIELKGI DFKEDGNILG HKLEYNYNSH NVYIMADKQK	540
NGIKANFKIR HNIEDGSVQL ADHYQQNTPI GDGPVLLPDN HYLSYQSALS KDPNEKRDHM	600
VLLEFVTAAG IITLGMDELYK	620

<212> Type : PRT  
 <211> Length : 620  
     SequenceName : TN-L15prot  
     SequenceDescription :

Sequence

-----

<213> OrganismName : Artificial Sequence  
 <400> PreSequenceString :

atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac	60
ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgaggcgga tgccacctac	120
ggcaagctga cctgaagtt catctgcacc accggcaagc tgcccggtgcc ctggcccacc	180
ctcgtgacca cctgacctg gggcgtgcag tgcttcagcc gctaccccgga ccacatgaag	240
cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc	300
ttcaaggacg acggcaacta caagaccgc gccgaggtga agttcgaggg cgacaccctg	360
gtgaaccgca tcgagctgaa ggcatcgac ttcaaggagg acggcaacat cctggggcac	420
aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac	480
ggcatcaagg ccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc	540
gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac	600
tacctgagca ccagtcctgc cctgagcaaa gaccccaacg agaagcgcgga tcacatggtc	660
ctgctggagt tcgtgaccgc cgcccgcatg ctaatggatg acatctacaa ggctgcggta	720
gagcagctga cagaagagca gaaaaatgag ttcaaggcag ccttcgacat ctctgtgtg	780
ggcgctgagg atggctgcat cagcaccaag gagctgggca aggtgatgag gatgctgggc	840
cagaacccca cccctgagga gctgcaggag atgatcgatg aggtggacga ggacggcagc	900
ggcacggtgg actttgatga gttcctggtc atgatggttc ggtgcatgaa ggacgacagc	960
aaagggaaat ctgaggagga gctgtctgac ctcttcgca tgtttgacaa aaatgctgat	1020
ggctacatcg acctggatga gctgaagata atgctgcagg ctacaggcga gaccatcacg	1080
gaggacgaca tcaggaact catgaaggac ggagacaaga acaacgacgg ccgcatcgac	1140

tatgatgagt tcttggagtt catgaagggg gtggaggagc tcatggtgag caagggcgag	1200
gagctgttca cgggggtggt gcccatcctg gtcgagctgg acggcgacgt aaacggccac	1260
aagttcagcg tgtccggcga gggcgagggc gatgccacct acggcaagct gaccctgaag	1320
ttcatctgca ccaccggcaa gctgcccgtg ccctggccca ccctcgtgac caccttcggc	1380
tacggcctga tgtgcttcgc ccgtacccc gaccacatgc gccagcacga cttcttcaag	1440
tccgccatgc ccgaaggcta cgtccaggag cgcaccatct tcttcaagga cgacggcaac	1500
tacaagaccc gcgccgaggt gaagtctgag ggcgacaccc tggatgaaccg catcgagctg	1560
aagggcacatg acttcaagga ggacggcaac atcctggggc acaagctgga gtacaactac	1620
aacagccaca acgtctatat catggccgac aagcagaaga acggcatcaa ggccaacttc	1680
aagatccgcc acaacatcga ggacggcagc gtgcagctcg ccgaccacta ccagcagaac	1740
accccatcgc gcgacggccc cgtgctgctg cccgacaacc actacctgag ctaccagtcc	1800
gccttgagca aagaccccaa cgagaagcgc gatcacatgg tctgctgga gttcgtgacc	1860
gccgccggga tcaactctcg catggacgag ctgtacaagt aa	1902

<212> Type : DNA

<211> Length : 1902

SequenceName : TN-humTC

SequenceDescription :

Custom Codon

-----

Sequence Name : TN-humTC

Sequence

-----

<213> OrganismName : Artificial Sequence

<400> PreSequenceString :

MVSKGEELFT GVPILVELD GDVNGHRFSV SGEGEDATY GKLTCLKFICT TGKLPVPWPT	60
LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL	120
VNRIELKGID FKEDGNILGH KLENYIISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA	180
DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHNV LLEFVTAARM LMDDIYKAAV	240
EQLTEEQKNE FKAAFDIFVL GAEDGCISTK ELGKVMRMLG QNPTPEELQE MIDEVDEDGS	300
GTVDFFDEFVL MMVRCMKDDS KGKSEEELSD LFRMFCKNAD GYIDLDELKI MLQATGETIT	360
EDDIEELMKD GDKNNDGRID YDEFLEFMKG VEELMVSKGE ELFTGVVPIL VELDGDVNGH	420
KFSVSGEGEG DATYGKLTCLK FICTTGKLPV PWPTLVTTFG YGLMCFARYP DHMRQHDFFK	480
SAMPEGYVQE RTIFFKDDGN YKTRAEVKFE GDTLVNRIEL KGIDFKEDGN ILGHKLEINY	540

NSHNVYIMAD KQKNGIKANF KIRHNIEDGS VQLADHYQQN TPIGDGPVLL PDNHLYSYQS 600

ALSKDPNEKR DHMVILLEFVT AAGITLGMDE LYK 633

<212> Type : PRT

<211> Length : 633

SequenceName : TN-humTCprot

SequenceDescription :

Sequence

-----

<213> OrganismName : Artificial Sequence

<400> PreSequenceString :

atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac 60

ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgaggcgga tgccacctac 120

ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccggtgc ctggcccacc 180

ctcgtgacca ccctgacctg gggcgtgcag tgcttcagcc gctaccccga ccacatgaag 240

cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc 300

ttcaaggacg acggcaacta caagaccgc gccgaggtga agttcgaggg cgacaccctg 360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac 420

aagctggagt acaactacat cagccacaac gtctatatca ccgccgacaa gcagaagaac 480

ggcatcaagg ccacttcaa gatccgccac aacatcgagg acggcagcgt gcagctcgcc 540

gaccactacc agcagaacac ccccatcggc gacggccccg tgctgctgcc cgacaaccac 600

tacctgagca ccagtcgc cctgagcaaa gaccccaacg agaagcgcga tcacatggtc 660

ctgctggagt tcgtgaccgc cgcccgcatg ctcagcgagg agatgattgc tgagttcaaa 720

gctgcctttg acatgtttga tgcggacggt ggtggggaca tcagcaccaa ggagttgggc 780

acggtgatga ggatgctggg ccagaacccc accaaagagg agctggatgc catcatcgag 840

gaggtggacg aggatggcag cggcaccatc gacttcgagg agttcctggt gatgatggtg 900

cgccagatga aagaggacgc caagggcaag tctgaggagg agctggccaa ctgcttcgc 960

atcttcgcca agaacgctga tgggttcacg gacatcgagg agctgggtga gattctcagg 1020

gccactgggg agcacgtcat cgaggaggac atagaagacc tcatgaagga ttcagacaag 1080

aacaatgacg gccgcattga cttcgatgag ttcctgaaga tgatggaggg tgtgcaggag 1140

ctcatggtga gcaagggcga ggagctgttc accgggggtg tgcccatcct ggtcgagctg 1200

gacggcgacg taaacggcca caagttcagc gtgtccggcg agggcgaggg cgatgccacc 1260

tacggcaagc tgacctgaa gtcatctgc accaccgga agctgcccggt gccctggccc 1320

accctcgtga ccaccttcgg ctacggcctg atgtgcttcg cccgctaccc cgaccacatg 1380

```
cgccagcacg acttcttcaa gtccgcatg cccgaaggct acgtccagga ggcaccatc 1440
ttcttcaagg acgacggcaa ctacaagacc cgcgccgagg tgaagttcga gggcgacacc 1500
ctggtgaacc gcatcgagct gaagggcatc gacttcaagg aggacggcaa catcctgggg 1560
cacaagctgg agtacaacta caacagccac aacgtctata tcatggccga caagcagaag 1620
aacggcatca aggccaactt caagatccgc cacaacatcg aggacggcag cgtgcagctc 1680
gccgaccact accagcagaa ccccccatc ggcgacggcc ccgtgctgct gcccgacaac 1740
cactacctga gctaccagtc cgccctgagc aaagacccca acgagaagcg cgatcacatg 1800
gtctgtctgg agttcgtgac cgccgccggg atcactctcg gcatggacga gctgtacaag 1860
taa 1863
```

<212> Type : DNA

<211> Length : 1863

SequenceName : TN-L15 D107A

SequenceDescription :

Custom Codon

-----

Sequence Name : TN-L15 D107A

Sequence

-----

<213> OrganismName : Artificial Sequence

<400> PreSequenceString :

```
MVSKGEELFT GVVPILEVEL GDVNGHRFSV SGEGEDATY GKLTCLKFICT TGKLPVPWPT 60
LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL 120
VNRIELKGID FKEDGNILGH KLEYNISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA 180
DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHNV LLEFVTAARM LSEEMIAEFK 240
AAFDMFDADG GGDISTKELG TVMRMLQNP TKEELDAIIE EVDEDGSGTI DFEEFLVMNV 300
RQMKEDAKGK SEEELANCFR IFAKNADGFI DIEELGEILR ATGEHVIEED IEDLMKDSK 360
NNDGRIDFDE FLKMMEGVQE LMVSKGEELF TGVVPILEVEL DGDVNGHKFS VSGEGEDAT 420
YGKLTCLKFIC TTGKLPVWP TLVTTFGYGL MCFARYPDHM RQHDFFKSAM PEGYVQERTI 480
FFKDDGNYKT RAEVKFEGDT LVNRIELKGI DFEDGNILG HKLEYNYNH NVYIMADKQK 540
NGIKANFKIR HNIEDGSVQL ADHYQQNTPI GDGPVLLPDN HYSYQSALS KDPNEKRDHM 600
VLEFVTAAG ITLGMDELYK 620
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<212> Type : PRT

<211> Length : 620

SequenceName : TN-L15 D107Aprot

SequenceDescription :

## Sequence

-----

&lt;213&gt; OrganismName : Artificial Sequence

&lt;400&gt; PreSequenceString :

atggtgagca agggcgagga gctgttcacc ggggtggtgc ccacctggt cgagctggac	60
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ggcaagctga ccctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc	180
ctcgtgacca ccctgacctg gggcgtgcag tgcttcagcc gctaccccga ccacatgaag	240
cagcacgact tcttcaagtc cgccatgccc gaaggctacg tccaggagcg taccatcttc	300
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gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac	420
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cagtccgccc tgagcaaaga ccccaacgag aagcgcgatc acatggtcct gctggagttc 1860
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<212> Type : DNA
<211> Length : 1908
      SequenceName : TN-TnCfl
      SequenceDescription :

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Custom Codon

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Sequence Name : TN-TnCfl

Sequence

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<213> OrganismName : Artificial Sequence
<400> PreSequenceString :
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LVTTLTWGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL 120
VNRIELKGID FKEDGNILGH KLEYNYISHN VYITADKQKN GIKAHFKIRH NIEDGSVQLA 180
DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHNV LLEFVTAARM LMASMTDQQA 240
EARAFLSEEM IAEFKAAFDM FDADGGGDIS TKELGTVMRM LGQNPTKEEL DAIIEEVDED 300
GSGTIDFEEF LVMMVRQMK EDAKGKSEEEL ANCFRIFDKN ADGFIDIEEL GEILRATGEH 360
VIEEDIEDLM KDSKNNNDGR IDDFEFLKMM EGVQELMVSK GEELFTGVVP ILVELDGDVN 420
GHKFSVSGEG EGDATYGKLT LKFICTTGKL PVPWPTLVTT FGYGLMCFAR YPDHMRQHDF 480
FKSAMPEGYV QERTIFFKDD GNYKTRAEVK FEGDTLVNRI ELKGIDFKED GNILGHKLEY 540
NYNSHNVYIM ADKQKNGIKA NFKIRHNIED GSVQLADHYQ QNTPIGDGPV LLPDNHYLSY 600
QSALSKDPNE KRDHMLLEF VTAAGITLGM DELYK 635
<212> Type : PRT
<211> Length : 635
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      SequenceDescription :

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Sequence

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<213> OrganismName : Artificial Sequence
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ggcgacgtaa acggccacag gttcagcgtg tccggcgagg gcgagggcga tgccacctac 120

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ggcaagctga cctgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc	180
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gccctgagca aagaccccaa cgagaagcgc gatcacatgg tcctgctgga gttcgtgacc	